

REMARKS

The Title of the Invention has been amended. Claims 1-28 remain in the application. Further examination and reconsideration of the application is hereby requested.

In Section 3 of the Office Action, the Examiner objected to the Title as being non-descriptive. Applicants have amended the title to make it more descriptive of at least one aspect of Applicants' invention.

In Section 5 of the Office Action, the Examiner rejected claims 1, 2, 5-9, 11, 12, 15-19, 21-24, 27 and 28 under 35 USC 103(a) as being obvious over Hess in view of Matta. Applicants respectfully traverse this rejection. Applicants believe the Examiner is not considering Applicants' *invention as a whole*. Combining Hess with Matta will not create Applicants' invention as claimed. For instance in claim 1, the Applicants are claiming an integrated circuit for a printhead that includes "a set of transistors formed in the substrate wherein the gate of each of the set of transistors forms at least one closed loop." The Examiner argues that "it is well known that gates form loops." However, most integrated circuit transistors are not formed with loops and the Examiner has not cited a reference that has disclosed printheads where "the gate of *each* of the set of transistors forms at least one closed loop" as Applicants are claiming. As MPEP 2143.01 states, "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."

Further, it is this combination of all transistors having formed closed loops and the element of "an ejection element . . . disposed over the substrate without an intervening field oxide layer" that creates a unique structure that is not disclosed, taught, or suggested by Hess or Matta alone or in combination. This structure allows for eliminating a masking step in the manufacture of the integrated circuit which reduces cost and increases reliability. As stated in *Ex parte Hiyamizu*, 10 USPQ.2d 1393, 1394-95 (BPAI 1988) "it is well settled that where the claimed invention solves a problem (e.g. how to reduce masking steps), the discovery of the problem and its solution (e. g. the claimed structure) are considered to be part of the 'invention as a whole' under 35 USC 103." Having each of the transistors formed with a closed loop structure allows the Applicants printhead to have an ejection element disposed over the substrate with no intervening field oxide layer thus allowing for the elimination of a masking step.

The printhead of Matta discloses a silicon-on-insulator substrate to eliminate the field oxide layer and does not even disclose one transistor with a closed loop gate structure, much less where all transistors are formed with a closed loop gate. In addition, Hess does not disclose a transistor with a close loop for the gate. Since  
5 neither Hess nor Matta suggest the desirability of having all of the transistors having gates with at least one closed loop, the rejection under 35 USC 103(a) for claim 1 is improper and should be withdrawn. Independent claim 11 also includes the limitation where the integrated circuit for a printhead includes "a set of  
10 transistors, wherein all the transistors on the substrate are formed with at least one closed loop structure." Similarly, independent claim 21 includes the limitation of where "each transistor ... comprising a ... gate forming a closed loop ..." and thus is also deemed patentable over the art made of record.

Dependent claims 2, and 5-9 depend directly or indirectly on claim 1 and are thus deemed patentable based at least on the patentability of claim 1. Claims  
15 12 and 15-19 depend directly or indirectly on claim 11 and are deemed patentable based at least on the patentability of claim 11. Claims 22-24, 27, and 28 depend directly or indirectly on claim 21 and are deemed patentable based at least on the patentability of claim 21. Withdrawal of the rejection under 35 USC 103(a) and allowance of claims 1, 2, 5-9, 11, 12, 15-19, 21-24, 27 and 28 is respectfully  
20 requested.

In Section 6 of the Office Action, the Examiner rejected claims 3, 13, and 25 under 35 USC 103(a) as being obvious over Hess in view of Matta. Claims 3, 13, and 25 depend in part upon independent claims 1, 11, and 21, respectively,  
25 and are deemed at least patentable based on the patentability of their respective parent claims as discussed previously. Removal of this rejection and allowance of claims 3, 13, and 25 is respectfully requested.

In Section 7 of the Office Action, the Examiner rejected claims 4, 14, and  
30 26 under 35 USC 103(a) as being obvious over Hess in view of Matta and Hawkins. Claims 4, 14, and 26 depend in part upon independent claims 1, 11, and 21, respectively, and are deemed at least patentable based on the patentability of their respective parent claims as discussed previously. Removal of this rejection and allowance of claims 4, 14, and 26 is respectfully requested.

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In Section 8 of the Office Action, the Examiner rejected claims 10 and 20 under 35 USC 103(a) as obvious over Hess in view of Matta and Burke. Claim 10 depends indirectly upon claim 1 and claim 20 depends indirectly upon claim 11 and are both deemed patentable based at least on the patentability of their  
5 respective base claims as discussed previously. Removal of this rejection and allowance of claims 10 and 20 is respectfully requested.

The prior art made of record but not relied upon by the Examiner has been reviewed, but is no more pertinent to Applicants' invention than the cited  
10 references for the reasons given above.

Applicants believe their claims as amended previously are patentable over the art of record, and that the amendments made to date are within the scope of a search properly conducted under the provisions of MPEP 904.02. Accordingly,  
15 claims 1-28 are deemed to be in condition for allowance, and such allowance is respectfully requested.

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